

CLAIM LISTING

1. (currently amended) A method for dynamic backhaul resource management in a wireless communication system comprising:

determining, by a packet controller ~~packet control unit (PCU)~~, a link capacity of a backhaul link for conveying data to be transmitted during a transmit period;

determining, by the packet controller ~~PCU~~, a data traffic level which is an amount of data that will need to be conveyed by the backhaul link for transmission during the transmit period, assuming that wireless unit coding schemes are maximized according to present wireless channel conditions;

when the data traffic level is greater than the link capacity, reducing a coding scheme of at least one wireless unit for the transmit period in order to reduce the data traffic level to fit within the data capacity of the backhaul link.

2. (original) The method of claim 1, wherein the transmit period comprises a period in which a plurality of air interface timeslots are concurrently transmitted.

3. (currently amended) The method of claim 1, wherein the backhaul link comprises a packet controller-BTS ~~PCU-BTS~~ bearer link between the packet controller ~~PCU~~ and a base transceiver station (BTS).

4. (currently amended) The method of claim 3, wherein the packet controller-BTS ~~PCU-BTS~~ bearer link comprises 20 millisecond backhaul frames.

5. (original) The method of claim 1, wherein reducing the coding scheme of at least one wireless unit for the transmit period comprises not conveying data to the at least one wireless unit during the transmit period.

6. (original) The method of claim 1, wherein reducing the coding scheme of at least one wireless unit for the transmit period comprises reducing the data rate at which data will be transmitted to the at least one wireless unit during the transmit period.

7. (original) The method of claim 1, further comprising conveying data targeted for an air interface timeslot for the transmit period via multiple backhaul link timeslots.
8. (original) The method of claim 7, wherein each backhaul link timeslot of the multiple backhaul link timeslots is also used to convey data targeted for at least one other air interface timeslot.
9. (original) The method of claim 7, wherein conveying data targeted for an air interface timeslot via multiple backhaul link timeslots is performed when an available number of backhaul link timeslots is less than a number of targeted air interface timeslots.
10. (original) The method of claim 1, wherein the at least one wireless unit has a lowest QoS priority as compared to other wireless units targeted with data during the transmit period.

11. (currently amended) A packet controller ~~packet control unit (PCU)~~ for dynamic backhaul resource management in a wireless communication system, the packet controller PCU comprising:

a packet controller PCU network interface adapted to send and receive messaging using a plurality of communication protocols;

a controller, communicatively coupled to the packet controller PCU network interface,

adapted to determine a link capacity of a backhaul link for conveying data to be transmitted during a transmit period,

adapted to determine a data traffic level which is an amount of data that will need to be conveyed by the backhaul link via the packet controller PCU network interface for transmission during the transmit period, assuming that wireless unit coding schemes are maximized according to present wireless channel conditions, and

adapted to reduce a coding scheme of at least one wireless unit for the transmit period, when the data traffic level is greater than the link capacity, in order to reduce the data traffic level to fit within the data capacity of the backhaul link.

12. (currently amended) The packet controller PCU of claim 11, wherein the transmit period comprises a period in which a plurality of air interface timeslots are concurrently transmitted.

13. (currently amended) The packet controller PCU of claim 11, wherein the backhaul link comprises a packet controller-BTS PCU-BTS bearer link between the packet controller PCU and a base transceiver station (BTS).

14. (currently amended) The packet controller PCU of claim 13, wherein the packet controller-BTS PCU-BTS bearer link comprises 20 millisecond backhaul frames.

15. (currently amended) The packet controller PCU of claim 11, wherein the controller is further adapted to convey, via the packet controller PCU network interface, data targeted for an air interface timeslot for the transmit period via multiple backhaul link timeslots.

16. (currently amended) The packet controller PCU of claim 15, wherein each backhaul link timeslot of the multiple backhaul link timeslots is also used to convey data targeted for at least one other air interface timeslot.

17. (currently amended) The packet controller PCU of claim 15, wherein the controller conveys data targeted for an air interface timeslot via multiple backhaul link timeslots when an available number of backhaul link timeslots is less than a number of targeted air interface timeslots.

18. (currently amended) The packet controller PCU of claim 11, wherein the at least one wireless unit has a lowest QoS priority as compared to other wireless units targeted with data during the transmit period.